CENTRE D'ETUDE ET DE RECHERCHE MEDECINS D'AFRIQUE
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Ref : CERMA2011/E2

Mutagenic effect, antioxidant and anticancer activities of six medicinal plants from Burkina Faso

W.R. Sawadogo[a,b], A. Maciuk[b], J.T. Banzouzi[c], P. Champy[b], B. Figadere[b], I.P. Guissou[a,d] & O.G. Nacoulma[e]

[a] Institut de Recherche en Sciences de la Santé, University of Ouagadougou , 03 BP 7192 Ouagadougou 03 , Burkina Faso
[b] UMR CNRS 8076 BioCIS, Laboratory of Natural Products Chemistry, School of Pharmacy, University of Paris-Sud 11, Châtenay-Malabry, France
[c] Centre d'Etude et de Recherche Médecins d'Afrique (CERMA), B.P. 45, Brazzaville, Congo
[d] UFR/SDS, Université de Ouagadougou, 03 BP 7021 Ouagadougou 03, Burkina Faso
[e] Research Institute on Health Sciences (IRSS), Medicine and Traditional Medicine/Pharmacy, 03 P.O. Box 7192 Ouagadougou 03, Burkina Faso

Natural product research, epub, 2011 Aug 2

Abstract

The antiproliferative activities of six medicinal plant extracts from Burkina Faso were evaluated in order to justify their traditional use for the treatment of cancer. The SOS chromotest method was used in vitro on Escherichia coli PQ37 to evaluate the mutagenic effect of the plant extracts. The DPPH method was used to evaluate the antioxidant activity of each plant. The antiproliferative activity was evaluated by MTS method on normal cells (Vero and MCR5) and cancer cells (KB) in contact with the extracts for 72 h. The results showed that the studied plants are not genotoxic. Lantana ukambensis and Acacia macrostachya induced a very significant antiproliferative effect against cancer cells with 94% and 95%, respectively. They also developed a strong antioxidant activity. The IC(50) values were 5.96 ± 0.40 µg mL(-1) for L. ukambensis and 4.30 ± 0.26 µg mL(-1) for A. macrostachya. These two plants are therefore potential sources for isolating new antioxidant and anticancer molecules.

Keywords:

Mutagenic effect, anticancer, plants, Burkina Faso, Lantana ukambensis, Acacia macrostachya